

Appl. No. 10/698,988  
Amdt. Dated April 11, 2005

Attorney Docket No.: NSL-014  
Reply to Office Action of Feb. 8, 2005

**REMARKS:****RESTRICTION REQUIREMENT**

The Examiner has required restriction between claims 1-11 drawn to a method of making a film and claims 12-24 drawn to a film. The Applicant confirms the election of claims 12-24 and  
5 traverses the requirement on the grounds that it is improper since the Examiner has not met his burden under MPEP 816 to give reasons for his holding of distinctness. MPEP 816 states that the Examiner should concisely state the reasons that the species are distinct. The Examiner has set forth only a conclusion that the five species are distinct and has set forth no particular reasons that he has relied on in holding that the species are patentably distinct. MPEP 816 clearly states,  
10 "[a] mere statement of conclusion is inadequate." In the absence of reasons, the inventions cannot be held to be distinct and the requirement should be withdrawn. Therefore the Applicant respectfully requests that the Examiner withdraw the election requirement.

**AMENDMENTS TO THE SPECIFICATION**

The specification has been amended to explicitly state material that had been incorporated by  
15 reference from US Patent 6,264,741, which was incorporated by reference into the application as filed (see page 5, line 1). Support for these features can be found in US Patent 6,264,741, e.g., at column 5, lines 39-46, column 6, lines 38-56, at column and at column 8, lines 6-7

**AMENDMENTS TO THE CLAIMS**

To expedite prosecution, the Applicants have amended claim 12 to recite that adjacent layers of  
20 organic and inorganic material are covalently bonded to each other. Support for this feature can be found in the specification at page 7, lines 1-3. The applicants submit that no new matter has been entered with this amendment. New claims 25 and 26 have been added to provide to cover layers of lamellae and tubules respectively. The applicant submits that support for these features can be found as described above with respect to the amendments to the specification.

**25 CLAIM REJECTIONS****35 USC 102**

Claims 12-15, 20-21 and 23-24 were rejected under 35 USC 102(b) as being anticipated by PCT.  
Publication WO00/78540 to Singh et al. (hereinafter Singh). In rejecting the claims the  
Examiner states that Singh teaches a laminate film comprising layers of nanocomposite, layered  
30 silicates dispersed in a polymer material and that the polymer material is polystyrene or polyvinylchloride. The Examiner concludes that Singh discloses a nanolaminate film in which

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layers of organic material alternate with layers of inorganic material. The Applicant respectfully traverses the rejection.

Claim 12 has been amended to recite that adjacent layers of the organic and inorganic materials are covalently bonded to each other. Please note that in claim 12, the organic material layers are identified as being polymers. Singh is devoid of any teaching or suggestion of layers of inorganic material covalently bonded to polymer layers as set forth in claim 12. Instead Singh teaches that a compatibilizing agent may be covalently bonded to the layered silicates (see page 11, line 30 to page 12, line 10). Singh does not teach that the compatibilizing agent is the matrix polymer or that the compatibilizing agent is covalently bonded to the *polymer material*. Instead Singh specifically teaches at page 31, lines 8-21:

By the term "compatibilizing agent" or related phrase is meant a preferred organophilic agent that is capable of being covalently linked to the inorganic layered silicate and which facilitates effective intercalation or exfoliation in that silicate. A particular agent is "compatible" to the extent that it facilitates favorable interactions between the platelet particles and the matrix polymer material. Without wishing to be bound to theory, especially preferred compatibilizing agents in accord with this invention are believed to provide for at least one of the following desirable matrix properties: similar cohesive energy densities for the polymer material and the derivatized platelets, similar or complimentary capacities for dispersive, polar, or hydrogen bonding interactions, or other specific interactions, such as acid/base or Lewis-acid/Lewis-base interactions. Additionally, good compatibilization helps to improve contact and particularly dispersion of the platelet particles in the matrix and an improved percentage of delaminated platelets with a thickness of less than about 50 Angstrom.

In short, Singh teaches that the compatibilizing agent is different from the matrix polymer and that the compatibilizing agent renders the surface of the silicates organophilic. This facilitates "intercalating", "exfoliating" or incorporation of the layered silicates into a matrix polymer. Entirely absent from Singh's discussion of compatibilizing agents is any teaching or suggestion that the compatibilizing agent covalently bond with or be capable of covalently bonding with the matrix polymer. Instead, Singh specifically teaches that the contact between the polymer and compatibilized silicates is through an ion exchange interaction (see p. 45, lines 25-27 and page 47 lines 4-22). Thus Singh does not teach and, in fact, teaches away from covalently bonding the layered silicates to the matrix polymer. Therefore, the applicants submit that Singh does not teach all the features of claim 12 and a prima facie case of anticipation is not present. Furthermore, it is submitted that Singh does not anticipate claims 13, 14, 20, 21, and 23-26 by virtue of their dependence from claim 12.

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35 USC 103

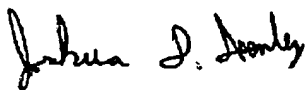
Claims 16-17 were rejected under 35 USC 103(a) as being obvious over Singh. In addition,  
claim 15 was rejected as being obvious over Singh in further view of US Patent 6,818,163 to  
Fibiger et al. (hereinafter Fibiger). Also, claims 18-19 were rejected as being obvious over Singh  
in view of US Patent 5,372,888 to Ogawa (hereinafter Ogawa). Furthermore, claim 22 was  
rejected as being obvious over Singh in further view of US Patent 6,264,741 to Brinker et al.  
(hereinafter Brinker). The applicants respectfully traverse the rejections.

For the reasons set forth above, the applicants submit that Singh does not teach all the features of  
claim 12. The Examiner has pointed to no teaching in Fibiger, Ogawa or Brinker, either alone or  
in combination with Singh tending to teach or suggest all the features of claim 12. As such, no  
combination of Singh with Fibiger, Ogawa, Brinker or skill in the art teaches or suggests all the  
features of claim 12 and a prima facie case of obviousness is not present. Furthermore claims  
15-19 and 22 all depend from claim 12 and recite additional features therefor. As such, and for  
the same reasons set forth above the applicants submit that these dependent claims define an  
invention suitable for patent protection.

CONCLUSION

For the reasons set forth above, the Applicants submit that all claims are allowable over the cited  
art and define an invention suitable for patent protection. The Applicants therefore respectfully  
request that the Examiner enter the amendment, reconsider the application, and issue a Notice of  
Allowance in the next Office Action.

Respectfully submitted,



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